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Undescribed plants from Guatemala. IV.

JOHN DONNELL SMITH.

(WITH PLATE XI.)

Gonzalea thyrsoidea.—Pilose: leaves except veins glabrate, oblong (8-9 inches), each end acuminate, shortly petioled: thyrsus virgate, a foot long; flowers 3-7, pedicellate, in scattered nearly sessile cymose clusters: calyx-tube produced; teeth smooth, colored, small, triangular, unequal: corolla-tube cylindrical, 7 lines long; lobes nearly half as long, of a darker red, farinaceous and arachnoid within, their contact in æstivation alternately imbricate and induplicate-valvate: anthers barely included: style scarcely attaining to their base; divisions of stigma 4, linear: disk radiately 8-lobuled: ovary 4-locular.—Mountains of Pansamalá, Dept. Alta Verapaz, alt. 3,800 feet, May, 1887. (Ex Plantis Guatemalensibus Tuerckheimianis, quas edidit John Donnell Smith, 1249.)

Mikania pyramidata.—High-climbing shrub with ferruginous-hirsute branches, petioles and inflorescence: leaves pubescent, more scabrid above, ovate-lanceolate, slenderly acuminate, 4-8 inches long, base truncate or rounded, margin with an angulate tooth and distant callose points, nerves from base in 2-3 remote pairs: panicles pyramidal, compound, densely flowered, 6-12 inches long; branches brachiate, leafy-bracted below, the upper alternate; heads loosely corymbose, pedicels equaling involucre; its bracts glabrate, linear-oblong (2 lines), apex obtusish and pubescent, subtending bract shorter and lanceolate or none: corolla equaling involucre; limb campanulate, exceeding slender tube, cleft to middle in ovate-lanceolate lobes: akenes nearly smooth, a little exceeded by involucre and sordid-white pappus.—Forest near Coban, Dept. Alta Verapaz, alt. 4,300 feet. January, 1887. (Ex Pl. cit. 1106.)

Zexmenia Guatemalensis.—Fruticose, scabrid, cano-pilose: leaves muricate-scabrous above, hairy beneath, tripli-nerved, mucronately denticulate, ovate-lanceolate, 4-6 inches long, spatulately narrowed to dilated connate base: peduncles cano-lanate, 3-5, subumbellate at apex of branches, exceeded by subtending leaves: heads hemispherical, 5 lines high; exterior bracts of biserial involucre 5, herbaceous, a third longer than the 8 inferior: rays 8, bidentate, 6 lines long:

disk-corollas a little exceeding involucre, equaling produced rigid tips of lacerate chaff, limb exceeding tube, lobes cano-hirsute: ray-akenes obovate; pappus-teeth confluent with wings, incurved-lanceolate, shortly-awned, connate, the lateral equaling corolla-tube: disk-akenes oblong-turbinate, subtriquetrous, costate, puncteolate; pappus a squamellate cup, exaristate or occasionally 1-awned.—Coban, alt. 4,300 feet, February, 1886. (Ex Pl. cit. 853.)

Encelia pleistocephala.—Branches angulate, purplish, pubescent toward inflorescence: leaves alternate, scabrid above, pubescent beneath, penninerved, callose-denticulate, oblong-lanceolate, 5-6 inches long, acuminate narrowing to a channeled petiole an inch long: corymbs compound, dense, a little surpassing leaves; heads long-pedicellate, 6 lines high; involucre half as long, campanulate, purplish-green, pubescent, 2-3-serial, inner bracts oblong, outer smaller and thick: rays 5-6, oval, 2 lines long, 3-denticulate, yellow, tube equaling involucre; disk-corollas equaling rays, exceeding concave pubescent chaff, lobes darker yellow: anthers black, barely exerted: akenes spatulate, nerved, nearly smooth, margins ciliolate; awns from inner side of conspicuous teeth, upwardly barbellate, equaling corolla: abortive akenes occasionally triquetrous, unequally 2-3-aristate.—The anomalous inflorescence recalls several *Verbesinae*; but technically distinct by neutral rays.—Rocks near Coban, alt. 4,300 feet, February, 1887. (Ex Pl. cit. 1121.)

Gonolobus velutinus Schlecht., var. **calycinus.**—Indument pilose, uniform throughout of young leaves and follicles dense: leaves caudate-acuminate, hairs of upper surface from muriculate points: calyx-lobes nearly equaling corolla, roundish with caudiculate barbate apex, otherwise nearly smooth.—In 2458 *Bourgeau*, cited by Hemsl., *Biol. Centr. Am.*, leaves are as in description velutinous, calyx-lobes smaller and not produced.—Pansamalá forest, alt. 4,000 feet, April, 1887. (Ex Pl. cit. 1124.)

Lamourouxia integerrima (§ *Hemispadon* Benth.).—Leaves entire, lanceolate, 16-20 lines long, a fourth as broad: flowers somewhat crowded toward summit of branches: calyx faintly 8-nerved; tube 2 lines long, equaling peduncle, exceeding triangular erect bilabiate unequal teeth: corolla ventricose, 15-17 lines long, 4-5 lines wide at throat, cleft less than half way; posterior lip retuse, rectangular: anantherous stamens half as long as the fertile.—The nearly related *L. lanceolata* Benth., also collected by Mr. von Türck-

heim, similar in habit, differs by slender serrate leaves, more scattered longer-peduncled flowers, 12-costate calyx with long-spreading nearly equal marginate lobes, straight narrow more deeply cleft corolla, its posterior lip entire with produced angles, longer sterile stamens.—Pansamalá, alt. 4,000 feet, January, 1887. (Ex Pl. cit. 1112.)

Pitcairnia Tuereckheimii (§ *Eupitcairnia* Baker).—Acaulescent: basal bracts lanceolate, attenuately prolonged, retrorsely prickly, 12-18 lines long, passing into similar unarmed basal leaves; those of peduncle cano-floccose beneath, linear-attenuate, erect, the lower 6-8 inches long by 4-5 lines broad: peduncle a foot or more long, like triangular rhachis araneose; raceme 8-14-flowered, internodes of about an inch; bracts ovate-lanceolate to ovate, 7-4 lines long, equaling smooth erecto-patent pedicels: sepals like bracts uncolored, glabrous, linear-tapering, acute, 12-14 lines long, scarcely $1\frac{1}{2}$ lines broad: petals nearly 3 inches long, crimson, paler below, basal scales absent: anthers protruding: style exceeding petals.—Rock-crevices, Santa Rosa, Dept. Baja Verapaz, alt. 5,000 feet, July, 1887. (Ex Pl. cit. 1298.)

Nephrodium Tuereckheimii. BOT. GAZETTE, xii, 133.—Explanation of Plate XI: Fig. 1. Frond reduced. Fig. 2. Portion of base of frond: nat. size. Fig. 3. Rootstock: nat. size. Fig. 4. Base of a lower pinna: nat. size. Fig. 5. Two segments of a pinna: enlarged. Fig. 6. Portion of a segment: more enlarged. Fig. 7. Indusium: magnified. Fig. 8. Scale from stipe: magnified.

An apparently undescribed species from Costa Rica is here added. It is numbered 176 of a small collection made by Señ. Juan J. Cooper, near Cartago, alt. 4,500 feet, December, 1887.

Zanthoxylum Costaricense.—Branches flexuose, armed with compressed recurved spines, glabrous, blotched with black exudations: petioles canaliculate, 6-9 lines long; leaflets 3, terminal exceeding others, oblong (21-26 lines), apex acuminate and refuse, base acute, crenulate, punctate throughout: panicles axillary and terminal, scaly-bracteole, verrucose; in fruit ramified, an inch or more long, from leafless nodes: flowers not seen: cocules 1-2, globose, glandular-tuberculate, dehiscing to base, stipe and gynophore each about half a line long: seed globose.—A shrub 10-15 feet high, known as "Limoncillo."

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NEPHRODIUM TUERCKHEIMII, J. Donnell Smith.



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B. Meisel, Lith. Boston.